

**In the claims:**

Please amend the claims as follows:

1-18. (cancelled).

19. (withdrawn). A chimeric receptor containing two or more independent polypeptide chains, each of said chains comprising in N- to C-terminus sequence:

- (1) an extracellular ligand association domain;
- (2) a spacer domain;
- (3) a transmembrane domain; and
- (4) one or more intracellular domains; provided that at least two of said domains in one chain are not naturally fused to each other, and wherein the spacer and/or transmembrane domains are selected to remain unassociated except in the presence of bound ligand.

20. (withdrawn). A chimeric receptor according to Claim 19 wherein each extracellular ligand association domain is an antibody variable region ( $V_H$  or  $V_L$ ) domain, a T-cell receptor variable region domain ( $TCR\alpha$ ,  $TCR\beta$ ,  $TCR\gamma$ ,  $TCR\delta$ ),  $CD8\alpha$ ,  $CD8\beta$ ,  $CD11a$ ,  $CD11b$ ,  $CD11c$ ,  $CD18$ ,  $CD29$ ,  $CD49a$ ,  $CD49b$ ,  $CD49c$ ,  $CD49d$ ,  $CD49e$ ,  $CD49f$ ,  $CD61$ ,  $CD41$  or  $CD51$  chain or a fragment thereof.

21. (withdrawn). A chimeric receptor according to Claim 20 wherein each association domain is structurally different to each other.

22. (withdrawn). A chimeric receptor according to Claim 19 wherein the ligand association domains of the chimeric receptor are a  $V_H$  domain paired with a  $V_L$  domain, two or more  $TCR\alpha$ ,  $TCR\beta$ ,  $TCF\gamma$ , and/or  $TCR\delta$  domains, a  $CD8\alpha$  or  $\beta$  homo- or heterodimer,  $CD18$  paired with one or more of  $CD11a$ ,  $b$ , or  $c$ ,  $CD29$  paired with one or more of  $CD49a$ ,  $b$ ,  $c$ ,  $d$ ,  $e$ , or  $f$ , and  $CD61$  paired with  $CD41c$  and/or  $CD51$ .

23. (withdrawn). A chimeric receptor according to Claim 19 wherein each intracellular domain is a naturally occurring polypeptide signaling sequence.
24. (withdrawn). A chimeric receptor according to Claim 23 wherein each signaling sequence is all or part of the zeta, eta or epsilon chain derived from the T-cell receptor; CD28; CD4; CD8; the  $\gamma$  chain of an Fc receptor; a signaling component from a cytokine receptor, a colony stimulating factor receptor, a tyrosine kinase and binding domains thereof; or an adhesion molecule.
25. (withdrawn). A chimeric receptor according to Claim 19 wherein the transmembrane domain is an oligo- or polypeptide derived from all or part of the alpha, beta or zeta chain of the T-cell receptor, CD28, CD8, CD4, CD3 $\epsilon$ , CD45 and members of the tetraspan family, a cytokine receptor, or a colony stimulating factor receptor.
26. (withdrawn). A chimeric receptor according to Claim 19 wherein each spacer domain is a polypeptide comprising 20 to 100 amino acids.
27. (withdrawn). A chimeric receptor according to Claim 19 wherein each independent polypeptide chain has a secretion signal sequence attached to the N-terminus of the association domain of each chain.
28. (withdrawn). A chimeric receptor according to Claim 19 wherein the chimeric receptor has two independent polypeptide chains.
29. (withdrawn). A chimeric receptor according to Claim 28 wherein one polypeptide chain has a ligand association domain which is a  $V_H$  domain or a fragment thereof, and the other has a ligand association domain which is a  $V_L$  domain or a fragment thereof.
30. (withdrawn). A chimeric receptor of Claim 19, wherein the spacer domain is modified to remain unassociated except in the presence of bound ligand.

31. (withdrawn). A chimeric receptor of Claim 19, wherein the transmembrane domain is modified to remain unassociated except in the presence of bound ligand.

32. (withdrawn). A chimeric receptor of Claim 19, wherein the spacer domain is a CD8 domain.

33. (withdrawn). A chimeric receptor of Claim 32, wherein the CD8 spacer domain is a modified CD8 spacer domain.

34. (currently amended). A nucleic acid sequence encoding a chimeric receptor, wherein the chimeric receptor contains two independent polypeptide chains, a first polypeptide chain and a second polypeptide chain, wherein the first polypeptide chain comprises in N- to C-terminus sequence:

- (1) an extracellular ligand association domain of an antibody heavy chain variable region;
- (2) a spacer domain of any polypeptide comprising 20 to 100 amino acid residues;
- (3) a transmembrane domain of any oligopeptide ~~oligonucleotide~~ or polypeptide derived from all or part of a human CD4 transmembrane domain; and

an intracellular domain, wherein the intracellular domain is a signaling domain comprised of any naturally occurring polypeptide signaling sequence that is all or part of the human CD4 intracellular signaling domain;

and wherein the second polypeptide chain comprises in N- to C-terminus sequence:

- (4) an extracellular ligand association domain of an antibody light chain variable region;
- (5) a spacer domain of any polypeptide comprising 20 to 100 amino acid residues;
- (6) a transmembrane domain of any oligopeptide ~~oligonucleotide~~ or polypeptide derived from all or part of a human CD4 transmembrane domain; and

an intracellular domain, wherein the intracellular domain is a signaling domain comprised of any naturally occurring polypeptide signaling sequence that is all or part of the human T cell receptor zeta chain;

wherein the spacer and/or transmembrane domains of the first and second polypeptide chains are selected to remain unassociated except in the presence of bound ligand.

35. (previously presented). A nucleic acid sequence according to Claim 34 in association with a carrier.

36. (withdrawn). A nucleic acid sequence according to Claim 35 wherein the carrier is a viral vector, a liposomal vector, a cationic lipid or an antibody.

37. (withdrawn). A nucleic acid sequence according to Claim 35 wherein the carrier is a targeted carrier.

38. (previously presented). A nucleic acid sequence according to Claim 34 wherein the nucleic acid sequence is on a plasmid.

39. (canceled).

40. (withdrawn). An effector cell containing a nucleic acid sequence or a plasmid according to Claim 34.

41. (withdrawn). An effector cell expressing a chimeric receptor of Claim 19.